

Amendments to the Claims

The claims have been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

1. (canceled).
2. (canceled).
3. (currently amended) The deposition method of claim ~~[[1]]~~ 55 wherein the surface activation agent comprises a metal halide, metal organic, alcohol, carboxylic acid, or amine.
4. (currently amended) The deposition method of claim ~~[[1]]~~ 55 wherein the surface activation agent comprises at least one of TiCl_4 , WF_6 , hexamethyldisilazane, tetrakis(dimethylamido)titanium, tetraethylorthosilicate, H_2O , methanol, ethanol, isopropanol, formic acid, acetic acid, oxalic acid, NH_3 , methylamine, ethylamine, or dimethylamine.
5. (canceled).
6. (currently amended) The deposition method of claim ~~[[1]]~~ 55 wherein the first and second temperatures are those of at least a portion of the substrate.
7. (currently amended) The deposition method of claim ~~[[1]]~~ 55 wherein the first and second temperatures are those of an outermost surface of the substrate.

8. (currently amended) The deposition method of claim [[1]] 55 wherein the first and second temperatures are respectively those of the surface activation agent and first precursor.

9. (currently amended) The deposition method of claim [[1]] 55 wherein the substrate comprises a bulk semiconductor wafer.

10. (canceled).

11. (currently amended) The deposition method of claim [[1]] 55 wherein the contacting the substrate comprises contacting a previously chemisorbed layer of a deposition precursor and adsorbing the surface activation agent on the previously chemisorbed layer.

12. (canceled).

13. (currently amended) The deposition method of claim [[1]] 55 wherein the surface activation agent is the same as the first precursor.

14. (canceled).

15. (currently amended) The deposition method of claim [[1]] 55 wherein the first precursor consists essentially of a single precursor species.

Claims 16-27 (canceled).

28. (currently amended) The deposition method of claim [[26]] 56 wherein the surface activation agent comprises a metal halide, metal organic, alcohol, carboxylic acid, or amine.

29. (currently amended) The deposition method of claim [[26]] 56 wherein the surface activation agent comprises at least one of TiCl_4 , WF_6 , hexamethyldisilazane, tetrakis(dimethylamido)titanium, tetraethylorthosilicate, H_2O , methanol, ethanol, isopropanol, formic acid, acetic acid, oxalic acid, NH_3 , methylamine, ethylamine, or dimethylamine.

30. (currently amended) The deposition method of claim [[26]] 56 wherein the surface activation agent is the same as the first compound.

Claims 31-33 (canceled).

34. (currently amended) The deposition method of claim [[31]] 56 wherein the contacting with the surface activation agent and deposition first precursor comprises moving the wafer substrate within a single chamber of a deposition apparatus from a first zone containing the surface activation agent to a second zone containing the deposition first precursor.

35. (currently amended) The deposition method of claim 34 wherein the moving is accomplished by linear translational motion of ~~[[the]]~~ a heated wafer chuck.

36. (currently amended) The deposition method of claim [[31]] 56 wherein the contacting with the surface activation agent and deposition first precursor comprises moving the wafer substrate from a cooled wafer chuck in a first chamber of a multiple chamber deposition apparatus to a second chamber of the apparatus wherein contacting with the agent and contacting with the precursor may occur.

37. (currently amended) The deposition method of claim 36 wherein the moving is accomplished by a robotic wafer handler.

Claims 38-40 (canceled).

41. (currently amended) The deposition method of claim 31 ~~wherein the surface activation agent is the same as the deposition precursor~~ 56 wherein the substrate comprises a bulk semiconductor wafer.

42. (currently amended) The deposition method of claim 31 ~~wherein the second layer consists essentially of a monolayer~~ 56 wherein the contacting the substrate comprises contacting a previously chemisorbed layer of a deposition precursor and adsorbing the surface activation agent on the previously chemisorbed layer.

43. (currently amended) The deposition method of claim ~~[[31]]~~ 56 wherein the deposition ~~first~~ precursor consists essentially of a single precursor species.

Claims 44-54 (canceled).

55. (previously presented) A deposition method comprising:

at a first temperature, contacting a substrate with a surface activation agent and adsorbing a first layer over the substrate, the first temperature being less than a chemisorption temperature of the surface activation agent on the substrate;

at a second temperature greater than the first temperature, contacting the first layer with a first precursor and chemisorbing a second layer consisting essentially of a monolayer on the first layer, the first layer enhancing a chemisorption rate of the first precursor compared to an otherwise identical substrate without the surface activation agent adsorbed thereon; and

contacting the second layer with a second precursor, chemisorbing a third layer at least one monolayer thick on the second layer, and forming a chemisorption product of the first and second precursors, the chemisorption product consisting essentially of a monolayer of a deposition material.

56. (previously presented) A deposition method comprising:

- at a first temperature, contacting a substrate with a surface activation agent and adsorbing a first layer over the substrate, the first temperature being less than a chemisorption temperature of the surface activation agent on the substrate;
- at a second temperature greater than the first temperature, contacting the first layer with a first precursor and chemisorbing a second layer consisting essentially of a monolayer substantially displacing the first layer from over the substrate during the chemisorbing the second layer, the first layer enhancing a chemisorption rate of the first precursor compared to an otherwise identical substrate without the surface activation agent adsorbed thereon; and
- contacting the second layer with a second precursor, chemisorbing a third layer at least one monolayer thick on the second layer, and forming a chemisorption product of the first and second precursors, the chemisorption product consisting essentially of a monolayer of a deposition material.